



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,542	08/09/2001	Mark C. Sullivan	SBTZ.0040002	1986
34611	7590	12/29/2004	EXAMINER	
LAW OFFICE OF DUANE S. KOBAYASHI 1325 MURRAY DOWNS WAY RESTON, VA 20194				BURD, KEVIN MICHAEL
		ART UNIT		PAPER NUMBER
		2631		

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/924,542	SULLIVAN, MARK C.
	Examiner Kevin M. Burd	Art Unit 2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 07 September 2004.  
 2a) This action is FINAL.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 9-13 and 21-25 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 9-13 and 21-25 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
     Paper No(s)/Mail Date 7/2004.

4) Interview Summary (PTO-413)  
     Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

1. This office action, in response to the amendment filed 9/7/2004, is a non-final office action.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 9-13 have been fully considered and are persuasive. The rejections of these claims have been withdrawn. However, a new rejection of these claims, as well as the newly added claims, are rejected in view of Ma et al (US 4,998,111) and Krasner (US 6,133,871).

### ***Claim Objections***

3. Claim 10 is objected to because of the following informalities: the term "the one millisecond sample" on line 2 should be changed to "one millisecond segment". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 9-13 and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al (US 4,998,111) in view of Krasner (US 6,133,871).

Regarding claims 9, 21 and 23-25, Ma discloses a system and method of rapid acquisition of multiple GPS signals (abstract) as shown in figure 1. The GPS signal is collected in a memory 20 and one millisecond segments of the GPS signal are stored (column 4, lines 50-60 and abstract). The one millisecond segment is converted to the frequency domain in the FFT 22. The frequency domain representation of the segment is multiplied by a reference code (column 3, lines 36-43) in multiplier 30. The signal is converted to the time domain in the inverse FFT 32 and a peak is detected in this signal 34 (column 3, lines 57-61). Ma does not disclose the reference code is a Gold code. However, Krasner discloses, "the code sequences belong to a family known as Gold codes. Each GPS satellite broadcasts a signal with a unique Gold code." (column 1, line 66 to column 2, line 9) Therefore, it would have been obvious for one of ordinary skill in the art to use Gold codes as taught by Krasner in the GPS system of Ma since "each GPS satellite broadcasts a signal with a unique Gold code." The GPS system would not function properly without a Gold code.

Regarding claim 10, the peak detector attempts to refine the estimate of the peak value (column 3, lines 44-61).

Regarding claim 11, the reference code is precomputed and stored in memory (column 3, lines 36-43).

Regarding claim 12, the peak detector attempts to refine the estimate of the peak value (column 3, lines 44-61). This process is the "curve fitting routine".

Regarding claim 13, the peak detector provides a signal to the reference code memory to refine the codes.

Regarding claim 22, the peaks are used for processing (column 3, lines 44-61).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Burd whose telephone number is (571) 272-3008. The examiner can normally be reached on Monday - Thursday 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kevin M. Burd  
12/26/2004

KEVIN BURD  
PRIMARY EXAMINER